REMARKS

The purpose of this Preliminary Amendment is to eliminate multiple claims dependencies, revise claims which, due to their form, do not comply with current U.S. Patent and Trademark Office practice, and to present additional claims directed to preferred embodiments of the invention.

The foregoing amendments do not introduce new matter into the present application, and, therefore, should be entered without objection.

Early and favorable consideration of the present application is respectfully requested.

Respectfully submitted,

Patrick J. Hagan
Reg. No. 27,643
Attorney for Applicant

PJH:ksk

MARKED-UP COPY OF THE CLAIMS

1. (Amended) A DNA sequence which is selected from the group consisting of (a) at least part of the sequence set out in the appended sequence listing; [or] and (b) a variant of a sequence (a) which encodes a polypeptide which is at least 80%, [preferably at least 90%], identical with the corresponding peptide as set out in table II; provided that it is not a sequence encoding all or part of the polypeptide consisting of amino acids 1-920 encoded by *mon AI* as set out in table II.

8. (Amended) A DNA sequence according to [any preceding] claim 1 encoding any one or more of the domains as set out in Table I or a variant or part thereof.

9. (Amended) A DNA sequence according to [any preceding] claim 1 which has a length of at least 30[, preferably at least 60,] bases.

10. (Amended) A recombinant cloning or expression vector comprising a DNA sequence according to [any preceding] claim 1.

11. (Amended) A transformant host cell which has been transformed to contain a DNA sequence according to [any of claims 1-9] claim 1 and which is capable of expressing a corresponding polypeptide.

12. (Amended) A hybridisation probe which is a DNA sequence according to [any of claims 1-9] claim 1.

13. (Amended) A method of detecting a PKS cluster comprising using [Use of] a probe according to claim 12 to detect a PKS cluster, optionally followed by isolation of the detected cluster.

14. (Amended) A method of detecting genes comprising using [Use of] a probe according to claim 12 which encodes at least part of a polypeptide having a known function to detect genes encoding polypeptides having analogous function.

15. (Amended) A method [Use] according to claim 14 wherein the polypeptide of known function is AT of module 5 or the regulatory protein encoded by *mon RI*.

17. (Amended) [Use of a probe according to claim 16 in a] A method of detecting the presence of a gene cluster which governs the synthesis of a polyether, which comprises using a probe according to claim 16, and optionally isolating a gene cluster detected thereby.

18. (Amended) [Use of] A method of detecting a gene comprising using a probe according to claim 12 which comprise a polynucleotide which binds specifically to a gene

responsible for levels of activity of the monensin gene cluster, [in a method of] for detecting an analogous gene in a gene cluster for biosynthesis of another polyketide, optionally followed by a step of manipulating the gene detected thereby to alter the level of expression of said other polyketide.

19. (Amended) A method [Use] according to claim 18 wherein the gene is a regulatory gene, resistance gene or thioesterase gene.

20. (Amended) A method of expressing a heterologous gene in *S. cinnamonesis* comprising inserting said gene so that it is expressed under the control [Use] of the *mon RI* gene or variant and a monensin promoter [to control expression of a heterologous gene in *S. cinnamonensis]*.

21. (Amended) A method of expressing a polyketide other than monensin which includes using [Use of] a portion of the monensin gene cluster encoding a polypeptide having chain terminating activity, [preferably] comprising at least one of *mon AIX* and *mon AX* or a mutant, allele or other variant thereof encoding a polypeptide having chain terminating activity, to effect chain release of [a peptide] said polyketide other than monensin.

22. (Amended) A method of synthesising a polyketide other than monensin which includes using [Use of] a portion of the monensin gene cluster encoding a polypeptide having carbon-carbon double bond isomerase activity[, preferably] comprising at least one of *mon BI* and *mon BII* or a mutant, allele or other variant thereof having isomerase activity to provide a desired stereochemical outcome in the synthesis of [a] said polyketide other than monensin.

23. (Amended) A polypeptide encoded by a portion of the monensin gene cluster, [preferably] comprising at least one [of] portion selected from *mon BI* and *mon BII* or a mutant, allele or other variant thereof, having carbon-carbon double bond isomerase activity, or at least one of *mon AIX* and *mon AX* or a mutant, allele or other variant thereof having chain terminating activity.

26. (Amended) A method for the biosynthesis of a polyketide other than monensin which comprises using [Use of] a portion of the monensin gene cluster encoding a peptide having epoxidase or cyclase activity, [preferably comprising *mon CI* or *mon CII* or a mutant, allele or other variant thereof encoding a polypeptide having epoxidase or cyclase activity] to provide a said activity in the biosynthesis of [a polypeptide] said polyketide other than monensin.

29. (Amended) A process according to claim 27 [or claim 28] wherein the starter unit also includes an AT_q domain derived from an AT domain which is naturally associated with the KS domain.

33. (Amended) A DNA sequence according to claim 30[, 31 or 32] wherein said loading module is adapted to load a starter unit other than a starter unit normally received by the adjacent extension module.

35. (Amended) A polyketide synthase encoded by the DNA sequence of [any of claims 30-34] claim 30.

37. (Amended) A vector containing a DNA sequence of [any of claims 30-34] claim 30.

38. (Amended) A transformant cell transformed to contain a DNA sequence of [any of claims 30-34] claim 30.

42. (Amended) A method of producing monensin comprising culturing the organism of claim 41 [and/or an organism produced by the method of claim 39 or claim 40].